

Inventory of *Doing What Works* (dww.ed.gov) Professional Development Materials

Topic: *Response to Intervention in Elementary-Middle Math (RIM)*

TOPIC SUMMARY		
Title/Media Type	Who	Description
<i>Response to Intervention</i> Multimedia Overview 4:10 min		This overview explains why states and districts are turning to Response to Intervention (RtI) systems. RtI systems typically include three instructional tiers and include various components, such as: universal screenings, progress monitoring, systematic instruction, and differentiation based on data.
<i>Response to Intervention Framework in Mathematics</i> Visual Diagram		A visual overview of three essential practices based on the <i>Assisting Students Struggling With Mathematics: Response to Intervention (RtI) for Elementary and Middle Schools</i> Practice Guide. The diagram can be helpful in comparing recommended practices for implementing an RtI system for mathematics with the way a school or district provides services to students who are at risk for struggling with mathematics.
<i>Evolution of Response to Intervention</i> Expert Interview 7:03 min	Russell Gersten, Ph.D. Instructional Research Group Sharon Vaughn, Ph.D. Meadows Center for Preventing Educational Risk (MCPER)	<ul style="list-style-type: none"> • Dr. Gersten and Dr. Vaughn share their ideas about why RtI has spread rapidly as a solution to helping struggling students. • RtI is a cohesive framework for building on existing reform elements and by getting regular and special education systems to work together. • They describe components of RtI, including screening, tiered interventions, and systematic instruction. • Core components to RtI frameworks include valid screening instruments, quality core instruction, tiered interventions, frequent progress monitoring, and data analysis for decision making.
<i>Issues, Challenges, Lessons</i> Expert Interview 7:12 min	Russell Gersten, Ph.D. Instructional Research Group Sharon Vaughn, Ph.D. MCPER	<ul style="list-style-type: none"> • Dr. Gersten and Dr. Vaughn discuss issues that states and districts face in implementing RtI systems. • RtI challenges can include changes in staff roles and responsibilities, limited resources in mathematics for screening and intervention, and the differences in RtI implementation in middle and secondary school. • It is important to stage implementation and prioritize a few components.

Topic: *Response to Intervention in Elementary-Middle Math (RIM)*

Practice: *Screen all students for math difficulties and monitor their progress. (Screening and Monitoring)*

PRACTICE SUMMARY

Title/Media Type	Description
<i>Screening and Monitoring Progress in Math</i> Multimedia Overview 5:34 min	<ul style="list-style-type: none"> • This overview explains the value of universal screening, describes the recommended components of an effective screening system, and provides information on establishing benchmarks and cut-points to identify at-risk students. • There is a similarity of screening systems and processes in math and reading. • Universal screening should be objective with teacher judgment reserved for progress monitoring.

LEARN WHAT WORKS

Title/Media Type	Who	Description
<i>Universal Screening in Math</i> Expert Interview 5:47 min	Anne Foegen, Ph.D. Iowa University	<ul style="list-style-type: none"> • Dr. Foegen explains the purpose of universal screening and how it fits into a multi-tiered intervention system. • She describes how to set and revise cut scores to identify students at risk for math difficulties. • Technical criteria for selecting instruments include: predictive validity, reliability, and efficiency.
<i>Functions of Progress Monitoring</i> Expert Interview 4:34 min	Anne Foegen, Ph.D. Iowa University	<ul style="list-style-type: none"> • Dr. Foegen describes how teachers can use progress monitoring to track borderline students' learning and determine whether interventions are benefiting students in Tier 2 and Tier 3 interventions. • She explains the differences between curriculum-embedded assessments and progress monitoring. • Frequency of progress monitoring is based on tier.

SEE HOW IT WORKS			
Title/Media Type	Who	Description	Sample Material
<i>Monitoring Student Progress</i> Presentation w/ Audio 3:40 min	Janis Logan Cornell Elementary Des Moines, IA	<ul style="list-style-type: none"> A 1st-grade teacher describes progress monitoring and how she uses the results for reteaching and regrouping. She demonstrates a lesson on whole numbers. Manipulatives are used to reinforce skill development and connect the concrete with the abstract. Conduct ongoing assessments of teaching strategies and student progress to improve instruction. 	No Sample Material
<i>Data Team Meeting: Grade 5 Math Review</i> Video Interview 5:39 min	Shamana Harris Wendy Kemberling Dan Bonora Tri-Community Elementary Steelton, PA	<ul style="list-style-type: none"> A 5th-grade data team reviews assessment data to plan instructional strategies for areas of student weakness. They review the process of specific students who have been struggling in reading and math. Set a goal of attainment for the next benchmark period. 	<i>RtI Data Analysis Teaming Process Script</i> —A description of the data analysis teaming process, along with guidance on procedures, discussion prompts, and record keeping. Part 1 outlines the initial goal-setting session; Part 2 outlines the benchmark meeting. <i>Screening and Intervention Record Forms</i> —Forms used in data team meetings to document student performance, goals, and plans within an RtI framework. An example of a completed Tier 1 form is included.
<i>The Power of Data</i> Audio Interview 4:47 min	Wes Sever John Wash Elementary Fresno, CA	<ul style="list-style-type: none"> A principal explains the significance of data for planning instruction. Professional development helps teachers use data and share strategies for improving student learning and classroom instruction. Using common grade-level assessments enable staff collaboration. 	No Sample Material

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Title/Media Type	Who	Description	Sample Material
	National Center on Response to Intervention (NCRTI)		<i>Screening Tools Chart</i> —A chart to help educators and families in selecting screening tools by content area. It rates tools on areas such as: classification accuracy, generalizability, reliability, validity, and efficiency.
	Center on Instruction		<i>Screening for Mathematics Difficulties in K–3 Students</i> —A report that looks at effectiveness of early screening measures and key features needed to screen K–3 grade students for math difficulties.
	Durham Elementary Tigard, OR		<i>Data Team: Assessment and Planning Worksheet</i> —Worksheets for helping data teams assess RtI components through observation and interview, along with sample RtI meeting guidelines and agenda.
	Cornell Elementary Des Moines, IA		<i>Problem Analysis and Intervention Design Worksheets</i> —Training module excerpt on problem solving used to guide data teams in assessing student learning and create data-driven instructional plans. Includes diagrams and worksheets on problem analysis and intervention design, and an assessment summary.
	Cornell Elementary Des Moines, IA Durham Elementary Tigard, OR Tri-Community Elementary Steelton, PA		<i>Graphing Progress – “How To” Packet</i> —Directions on using assessment data to create graphs to monitor student progress from three states with RtI frameworks. Included are detailed directions, sample spreadsheets, and mathematics examples.

DO WHAT WORKS	
Tool	Description
<i>Learning Together About Universal Screening in Math</i>	A staff development activity to guide district and school Response to Intervention team members to learn about the principles of universal screening in mathematics to either plan or refine screening procedures.
<i>District Planning for Universal Screening in Mathematics</i>	A planning tool to help district RtI leadership teams organize a districtwide universal screening program in mathematics.
<i>Professional Development for Data Utilization</i>	An assessment tool for district and school RtI leadership teams to evaluate staff professional development needs related to implementing assessments and use of assessment data.
Planning Templates	Comprehensive planning templates for working with state education agencies, districts, and schools on facilitating implementation of RtI frameworks.

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Practice: *Focus interventions on whole and rational numbers, word problems, and fact fluency. (Foundations of Arithmetic)*

PRACTICE SUMMARY

Title/Media Type	Description
<i>The Content of Math Interventions</i> Multimedia Overview 5:47 min	<ul style="list-style-type: none"> This overview explores the content focus of Tier 2 and Tier 3 math interventions. For K–5, focus on whole numbers, including place value and addition and subtraction operations with whole numbers. For 4–8, focus on rational numbers and operations with fractions, decimals, ratios, and percents. Explicitly teach how to solve word problems using problem types and how to identify irrelevant information.

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Title/Media Type	Who	Description
<i>Math Content for Struggling Students</i> Expert Interview 5:49 min	Sybilla Beckmann, Ph.D. University of Georgia	<ul style="list-style-type: none"> Dr. Beckmann describes the mathematics objectives to focus on for Tier 2 and Tier 3 interventions. Build students' math reasoning as a foundation for future learning. Students should understand what operations and algorithms mean, how they work, and why they work.
<i>Word Problems</i> Expert Interview 5:31 min	Sybilla Beckmann, Ph.D. University of Georgia	<ul style="list-style-type: none"> Dr. Beckmann describes teaching students to recognize the underlying structure of word problems. She provides examples of problem structures and discusses why the keyword approach to problems can be misleading. Teach students to decide which operation applies to which types of story problems.

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Title/Media Type	Who	Description	Sample Material
<i>Reteaching Place Value in Tier 2</i> Presentation w/ audio 5:42 min	Lorrie Lockin Cornell Elementary Des Moines, IA	<ul style="list-style-type: none"> An interventionist teaches a lesson to students on rounding to the nearest ten using a number line and manipulatives. When students experience difficulty, she reteaches with additional demonstrations. Each student approaches the practice problems using a different strategy. 	No Sample Material
<i>Content for Tiers 2 and 3</i> Slideshow w/o audio (12 slides)		<ul style="list-style-type: none"> An overview of the recommended mathematics content for Tier 2 and Tier 3 interventions. Explicit instruction on solving word problems for students in all interventions. Implement daily practice to develop fact fluency. 	No Sample Material
<i>Teaching Word Problem Structures</i> Slideshow w/o audio (12 slides)		<ul style="list-style-type: none"> A review of steps involved in explicit teaching of solving word problems, including identifying word problem features and types. Examples of common problem schema in elementary math and terminology variations. 	No Sample Material
	Cornell Elementary Des Moines, IA		<i>K–8 Essential Mathematics Concepts and Skills</i> —An excerpt from the Iowa Core Curriculum that shows essential math concepts and skills, content and performance standards, and examples for grade spans K–2, 3–5, and 6–8.
	John Wash Elementary Fresno, CA		<i>K–7 Essential Mathematics Standards Assessment Form</i> —An assessment form used to record and track student progress toward reaching proficiency on math standards. Also included are the K–2 math content standards for California public schools.

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Title/Media Type	Who	Description	Sample Material
	National Mathematics Advisory Panel U.S. Department of Education		<p><i>National Mathematics Advisory Panel: Core Principles of Instruction</i>—A fact sheet that summarizes the Panel’s findings on the core principles for math instruction.</p> <p><i>National Mathematics Advisory Panel: K–8 Benchmarks</i>—A summary of K–8 mathematics benchmarks recommended by the Panel to serve as guideposts for state and district frameworks.</p>
	Sybilla Beckmann, Ph.D. University of Georgia		<p><i>RtI in Math for Elementary and Middle Schools</i>—A PowerPoint that provides an overview of the Panel’s recommendations related to the content of math instruction. It includes examples of teaching whole numbers in grades K–5, rational numbers in grades 4–8, word problem structures, and using visual representations.</p>

DO WHAT WORKS	
Tool	Description
<i>Auditing the Content of Math Interventions</i>	An observation tool for math leaders to conduct observations of Tier 2 and Tier 3 intervention lessons to understand how congruent the content of current math intervention practices are with recommended practices.
<i>Tier 2 Interventions Benchmark Review</i>	An assessment tool for district and school RtI teams to assess the degree of congruence and identify gaps between Tier 2 interventions and the benchmarks recommended by the Panel.
<i>Fact Fluency Workshop</i>	An activity for math coaches and interventions to develop a shared understanding of the importance of developing fluent retrieval of arithmetic facts in students struggling with math.
Planning Templates	Comprehensive planning templates for working with state education agencies, districts, and schools on facilitating implementation of RtI frameworks.

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Practice: *Provide explicit instruction and incorporate visual representations and motivational strategies. (Intentional Teaching)*

PRACTICE SUMMARY

Title/Media Type	Description
<i>The Instructional Process in Interventions</i> Multimedia Overview 6:31 min	<ul style="list-style-type: none"> This overview describes characteristics of effective Tier 2 and Tier 3 instruction. Explicit teaching includes demonstrating and modeling with thinkalouds, extensive practice with teacher scaffolding and peer discussion, and corrective feedback with reteaching and cumulative review. Use concrete materials and visual representations to develop abstract concepts.

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Title/Media Type	Who	Description
<i>Explicit Instruction</i> Expert Interview 4:55 min	Bradley Witzel, Ph.D. Winthrop University	<ul style="list-style-type: none"> Dr. Witzel describes the components of explicit instruction, including modeling and demonstration, teacher and student thinkalouds, and guiding and scaffolding practice. Provide feedback to struggling students to encourage perseverance. There are a variety of ways to do practice; certain homework types can constitute independent practice.
<i>Visual Representations</i> Expert Interview 4:04 min	Bradley Witzel, Ph.D. Winthrop University	<ul style="list-style-type: none"> Dr. Witzel provides examples of each stage of the concrete-representational-abstract sequence of instruction. Visual representations can include number lines and strip diagrams.

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Title/Media Type	Who	Description	Sample Material
<i>Concrete to Abstract Sequence</i> Presentation 6:42 min	Tiffany Evans Indian Land Middle School Indian Land, SC	<ul style="list-style-type: none"> A middle school special education teacher demonstrates a lesson on two-step equations. She begins with concrete materials, then represents the concept on the SMART board before moving to abstract problem solving. Students practice through scavenger hunts and ticket-out-the-door problems. 	No Sample Material
<i>Organizing for Differentiation in the Core Classroom</i> Presentation 4:30 min	Lorie Bowman Cornell Elementary Des Moines, IA	<ul style="list-style-type: none"> A 2nd-grade teacher demonstrates a lesson on subtraction with regrouping. She plans for reteaching “on the spot” by having materials readily available for struggling students. At least 80% of instructional time is spent in whole groups, 20% in teaching individuals or small groups. Learning centers offer review and practice. 	No Sample Material
<i>Pacing Instruction in Tier 3</i> Presentation 6:42 min	Georgia Smee Tri-Community Elementary Steelton, PA	<ul style="list-style-type: none"> An interventionist teaches a Tier 3 math group place value concepts. She demonstrates concepts and students practice creating visual representations of two-digit numbers using the SMART board. The SMART board is a support for motivation. 	No Sample Material
<i>Explicit Teaching in the Fifth-Grade Math Core</i> Presentation 4:06 min	Jennifer Dodd John Wash Elementary Fresno, CA	<ul style="list-style-type: none"> A 5th-grade teacher describes a step-by-step approach to explicit math instruction. Students are engaged through partner sharing activities. Whiteboards are used to check for understanding. 	No Sample Material

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Title/Media Type	Who	Description	Sample Material
	The Access Center Washington, DC		<i>Concrete-Representational-Abstract (CRA) Instructional Approach Summary Report</i> —A report that describes the CRA instructional strategy, shows examples of its use in teaching fractions, and research and resources for further information.
	Sybilla Beckmann, Ph.D. <i>The Mathematics Educator</i> , Vol. 14, No. 1		<i>Solving Algebra and Other Story Problems With Simple Diagrams</i> —An article that discusses math problem-solving methods in Singapore’s elementary schools. It includes problem and sense-making diagrams and students’ proficiency data in problem solving compared to students in the United States.
	Asha Jitendra, Ph.D. <i>Teaching Exceptional Children</i> , Vol. 34, No. 4		<i>Teaching Students Math Problem-Solving Through Graphic Representations</i> —An article that describes the graphic representational technique, how to use the strategy for solving word problems, and how to assess students’ problem-solving performance.

DO WHAT WORKS	
Tool	Description
<i>Learning Together About Visual Representations</i>	Professional development activities for math interventionists and tutors to learn about the use of visual representations in math.
<i>Intentional Teaching Observation and Feedback</i>	An observation tool to guide coaches and professional developers in intervention observations and structure discussions during feedback conferences.
<i>Planning for Visual Representations</i>	A planning tool for interventionists to develop lessons for Tier 2 and Tier 3 interventions that include visual representations as well as other features of explicit instruction.
Planning Templates	Comprehensive planning templates for working with state education agencies, districts, and schools on facilitating implementation of RtI frameworks.

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Practice: *Establish a systemwide framework for RtI to support the three recommended practices. (RtI Implementation)*

PRACTICE SUMMARY

Title/Media Type	Description
<i>Response to Intervention: Framework in Math</i> Multimedia Overview 3:57 min	<ul style="list-style-type: none"> An overview of how RtI systems identify students potentially at risk in mathematics and then provide them with the support they need to achieve. The 3 recommended practices for implementing an RtI framework are: screening and progress monitoring, focus on the foundations of arithmetic, and intentional teaching. Teachers should use concrete manipulatives first, followed by representations, with the goal of moving toward the abstract. Encourage student engagement, emphasize effort and persistence, and acknowledge accomplishments and effort.

LEARN WHAT WORKS

Title/Media Type	Who	Description
<i>The Phases of RtI Implementation</i> Expert Interview 6:12 min	W. David Tilly III, Ph.D. Innovation and Accountability Iowa Heartland Education Agency	<ul style="list-style-type: none"> Dr. Tilly describes his experience as a technical assistance provider in helping districts and schools implement RtI frameworks. RtI is known as Instructional Decision Making in Iowa. There are 3 phases of RtI implementation: consensus building, infrastructure building, and full implementation.
<i>How RtI Changes Special Education</i> Expert Interview 6:02 min	W. David Tilly III, Ph.D. Innovation and Accountability Iowa Heartland Education Agency	<ul style="list-style-type: none"> Dr. Tilly describes major changes in special education as a result of RtI implementation, including the process of diagnosing learning needs, the elimination of disability labels, the use of different types of assessments, and emphasis on targeted instructional strategies.

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Title/Media Type	Who	Description	Sample Material
<i>Partnering General and Special Education</i> Slideshow w/ audio (12 slides)	John Tommasini, Ph.D. Edward Vollbrecht, Ph.D. Pennsylvania Department of Education	<ul style="list-style-type: none"> Two state agency leaders describe working collaboratively to implement an RtI instructional framework. All students receive instruction in the general education standards-aligned system through a core curriculum and interventions. A partnership was built between the state's general and special education bureaus. High-quality instruction is sustained through staff collaboration and shared responsibility for students. 	No Sample Material
<i>State Leadership: Building an RtI System</i> Video Interview 4:35 min	Gerald Zahorchak, Ed.D. Pennsylvania Department of Education	<ul style="list-style-type: none"> The Secretary of Education describes how RtI aligns other aspects of the state's reform and improvement framework. The Response to Instruction and Intervention begins with quality core teaching. State's role is to prepare teachers and principals to understand and use the system. Local role is to discover the best means to intervene. 	No Sample Material
<i>Setting the Stage for RtI Implementation</i> Video Interview 6:00 min	Joy Eichelberger, Ed.D. Pennsylvania Department of Education	<ul style="list-style-type: none"> An RtI state lead discusses educators' challenges in implementing RtI and what the evaluation results show. The Pennsylvania Training and Technical Assistance Network (PaTTAN) provides capacity building to schools throughout the state. 	<i>RtI Readiness Self-Assessment Tool for Elementary Schools</i> —A self-assessment tool to help schools/districts determine next steps in implementing an RtI framework.

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Title/Media Type	Who	Description	Sample Material
<i>Lessons From Iowa About RtI</i> Audio Interview 6:34 min	Lana K. Michelson Eric Neessen Iowa Department of Education	<ul style="list-style-type: none"> Two state education leaders discuss Instructional Decision Making (IDM), a general education initiative focused on using data to make instructional changes. The role of special education personnel changed to one that provides consultative assistance to general education teachers. 	No Sample Material
	State Implementation of Scaling-up Evidence-based Practices (SISEP) Center		<i>Scaling-Up Instruction and Technical Assistance Briefs</i> —A series of briefs to build state capacity for scaling-up effective practices. One brief provides a framework for sustaining use of evidence-based practices; the second defines and illustrates the use of technical assistance in education.
	Pennsylvania Department of Education		<i>Funding Considerations for Implementing RtI</i> —A guide with descriptions of potential RtI funding sources and the components/activities that may be funded through each source.
	Colorado Department of Education		<i>Professional Development Continuum</i> —A chart for organizing and displaying professional development plans that address training for RtI components. A filled-in example and blank chart are included.
<i>RtI Training for School Districts</i> Audio Interview 5:08 min	Erin Lolich Tigard-Tualatin School District	<ul style="list-style-type: none"> A district administrator describes the types of coaching and monitoring helpful to districts. District leadership teams should include district office administrators, principals, teaching and special education staff. Training related to learning disabilities focuses on shifting perceptions about what a learning disability is, the importance of identifying students early, and using intervention data. 	<i>District Implementation Tracking Plan</i> —A tracking plan to help districts implement an RtI approach. It focuses on key systems requirements, staff development, special education policies, and district capacity to monitor implementation.

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Title/Media Type	Who	Description	Sample Material
<i>Charting the Path</i> Video Interview 4:38 min	Bobbie Lamond Tri-Community Elementary Steelton, PA	<ul style="list-style-type: none"> A principal discusses the evolution of the school's RtI framework. She discusses the grade-level data team process used to differentiate instruction and the importance of staff collaboration in planning interventions. The principal's visibility throughout the school and in classrooms is important, along with providing support and building relationships with staff, parents, and students. 	<i>RtI Implementation Self Report</i> —A tool and rubric used by schools for reporting the status of RtI implementation across 10 effectiveness indicators. Indicators represent key areas of the state's RtI framework.
<i>Principal's Role in Instructional Decision Making</i> Video Interview 5:45 min	Deb Chiodo Cornell Elementary Des Moines, IA	<ul style="list-style-type: none"> A principal describes using grade-level meetings for guiding instructional decisions. Two levels of problem documentation: Form 1 is what a teacher will try in order to address a student's problem; Form 2 is to seek advice from colleagues if his/her interventions have not worked. Students who have not done well have the opportunity for interventions. 	No Sample Material
<i>Powerful RtI Training Experiences</i> Video Interview 5:48 min	Wendy Robinson Heartland Area Education Agency	<ul style="list-style-type: none"> A technical assistance provider describes the support schools need to implement RtI. She describes training experiences that are effective for communication, allocating intervention resources, and determining instructional strategies based on data. 	No Sample Material
	Colorado Department of Education		<i>RtI Comprehensive Evaluation Tool</i> —A tool for school leaders to complete when evaluating existing RtI components in schools and to identify areas of possible need.

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Title/Media Type	Who	Description	Sample Material
	Pennsylvania Department of Education		<i>Progress Monitoring Training Plan</i> —Sample plan for training staff on process monitoring principles and the state’s seven-step process. Plans for follow-up sessions on data collection and districtwide implementation are included.
	Durham Elementary Tigard, OR Tri-Community Elementary Steelton, PA		<i>RtI Parent Guides</i> —Two parent RtI resources. Pennsylvania schools provide parents with a guide that describes the RtI framework and components. Oregon schools provide a parent brochure in English and Spanish and invite parents to participate in team meetings to discuss student progress.

DO WHAT WORKS	
Tool	Description
<i>Learning Together About Implementing Response to Intervention in Math</i>	A professional development activity to engage K–8 teachers of mathematics in discussion on issues that arise in planning and implementing an RtI framework in mathematics instruction.
<i>School Self-Assessment: Implementing RtI Components</i>	A self-assessment tool for principals to complete in order to assess, refine, and improve existing RtI practices. It is useful in helping to identify the training and resources needed to achieve full implementation.
<i>Planning a Data Day</i>	A planning tool to help school and district leadership teams identify whether a “data day” or a different type of data review is appropriate for their situation.
Planning Templates	Comprehensive planning templates for working with state education agencies, districts, and schools on facilitating implementation of RtI frameworks.